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17. ABSTRACT (MAX. 250 WORDS) A model reading approach to increase the quality and quantity of reading instruction in the classroom is presented.

The criteria of good teaching methodology are that programs should meet individual student needs, that a program's level of content should be tailored to the individual student's level of capacity and achievement, that the speed of teaching should be matched to the individual's learning rate, and that a program should intensify learning by maintaining a high frequency of student response.

Programs can meet these criteria better than can traditional methods if they have enough flexibility to allow for adjustment to individual levels of content and speeds of teaching. Programers should analyze the specific operations involved in reading, should program a number of self-instructing packages for each operation, and should offer them to the teacher to match individual students' needs. By building plateaus, branches, and acceleration into the programs and by providing a number of short packages for each specific operation, programers can provide for individual levels and speeds.

A hypothetical individualized, multiprogramed, self-instructional reading center is described. Each student, on the basis of a detailed diagnosis, would begin a core program at his appropriate need level. Seated alone or with small groups with similar needs, he would proceed at his own pace at skill stations in a learning center. Supplementing the core program would be branches for remedial work, extra instruction, enrichment, and acceleration. The teaching methods would be very varied. The teacher would match materials and techniques to individual needs.

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INDIVIDUALIZED READING AND PROGRAMED INSTRUCTION

By S. Alan Cohen

I can envisage the perfectly structured reading program (linear, Crowderian, and/or mathetical) proudly delivered to the classroom where it makes one more contribution to maintaining the methodological status quo. We do not need this. We need, instead, radical tree surgery to change the forest landscape. Programed reading instruction may be a potent surgical method if we remember to step back occasionally and survey the forest.

In the interest of effective landscaping, this paper states four criteria of sound methodology. It suggests how programed materials can meet these criteria better than traditional techniques. Finally, it presents a model reading approach to increase the quality and quantity of reading instruction in the classroom.

All good teaching is programed. A skill or concept is presented sequentially; regulated student responses are required. Each step is presented on the tail of a preceding step at a speed roughly dependent upon the class learning rate. To master each step, the teacher supplies supplementary information as required. From Socrates to Sylvia Ashton-Warner, good teachers have been good programers; so what is new about programed instruction in 1964?

First, there is renewed emphasis on sequence coupled with careful analysis of the nature of sequence. Secondly, modern programing is applied learning theory carefully tested in the laboratory. Finally, modern programing involves educational technology--computers, machines, audiovisual devices, new textbook formats. Still, modern programing in reading instruction is no boon to learning unless it helps solve the problem of individualizing instruction.

Individual Reading Needs:

No matter how carefully we group students, each individual will have unique skills, attitudes, and perceptions. For example, research in reading shows that for students homogeneously grouped according to intelligence, socio-economic level, and reading grade level, the spread of scores for any specific reading subskill is normally distributed. The spread of most reading subskill scores in recall of details, main ideas, phonic spelling, use of index, science vocabulary, etc., for the top quartile of readers is not very different from the bottom quartile of readers. Furthermore, research findings on the effects of homogeneous grouping show no significant increase in school achievement. Grouping or not, we are still stuck with the unsolved problem of American education: How do we retain the effectiveness of tutorial education in a system of mass education? Our students may be "homogeneously grouped" in reading, but their individual reading needs are radically different.

Certainly, the values of group learning cannot be denied. (We want to have our cake and eat it, too!) But we have never solved the problem of individualizing instruction in our public schools in spite of the endless talk, lately by the Association for Supervision and Curriculum Development and the National Society for Secondary Education. Programed instruction in 1964 will be a boon to teaching if it helps solve this problem. To do so, it must meet criteria of good methodology outlined by Dr. Donald Durrell in his keynote address to the International Reading Association (IRA) in 1962.

Criterion 1. Programs must meet individual student needs. Unless the student is learning new skills, content, attitudes, or perceptions, he is not using his time and energy most efficiently. Thus a program is valuable if its content meets individual needs.

Criterion 2. A program's level of content must be tailored to the individual student's level of capacity and achievement.

Criterion 3. A program's speed of teaching must be matched to the individual student's learning rate.

Criterion 4. A program must intensify learning by maintaining a high frequency of student response. Thus, the student is always working and always responding. He never has to wait his turn, for he is always on the spot.

Sound Methodology:

Can programed instruction meet these criteria? It has already contributed material and methods that meet Criterion 4. So far, it has done less than a satisfactory job in meeting Criteria 1 through 3. For example, when publishers measure mean, median, or modal needs as principal guides to developing reading programs, they commit the same error that basal readers have been committing for decades. They design methods for groups, not for individuals. What we need, instead, are programs designed to teach specific operations that we know are necessary for learning to read (Criterion 1). This requires continuous program development for an infinite number of specific operations. For impatient publishers with an eye to profits, it is difficult to market a tiny piece of reading instruction. Their money lies in marketing a whole program, often at the expense of optimum educational validity. We need hundreds of specific programs designed for hundreds of specific skills that can be instantly matched to student needs.

Each program must have built-in flexibility allowing for adjustment to individual levels of content (Criterion 2) and speeds of teaching (Criterion 3). A single-track program with a rigid sequence presented by a human or nonhuman machine is no solution to the basic methodological problem of individualizing. We must, instead, analyze the specific operations involved in reading, program a number of self-instructing packages for each operation, and offer them to the teacher to match individual students' needs. By building into the programs plateaus, branching, and acceleration and by providing a number of short packages

for each specific operation, we can provide for individual levels and speeds.

For example, we of Mobilization for Youth (see Programed Instruction, Vol. III, Nos. 3 & 4, pp. 2-3) have found lack of auditory discrimination of sounds in words in culturally deprived retarded readers. In conjunction with CPI, we are developing short packages of self-instructional materials covering every sound in the language. Each sound is taught in a sequence of mastery. We want to match a particular sequence to an individual's need. Furthermore, we want to match the student's speed and level to a particular step in the sequence of mastery. Thus, the entire series meets the four criteria of good methodology.

The disadvantage of such an approach is the discouraging prospect of the gigantic job to be done. Hundreds of specific tasks involving hundreds of specific programs must be analyzed and developed. If we expect to make a breakthrough in teaching methods soon, we need to get started immediately.

The Self-Instructional Reading Center:

What would an individualized, multiprogramed, self-instructional reading center look like in action? On the basis of a detailed diagnosis, each student begins a core program at his appropriate need level. Seated by himself or with small groups with like needs, he proceeds at his own pace at skill stations in a learning center. Supplementing the core program are branches for remediation, extra instruction, enrichment, and acceleration. The modes of instruction are as varied as the materials and techniques in the educator's repertoire. The teacher is one mode of learning and is also the over-all supervisor who matches materials and techniques to individual needs. His job is to:

1. Arrange superior conditions for learning by building a "therapeutic classroom atmosphere" in which students risk behavior change.

2. Teach students how to teach themselves.

3. Insure success by carefully matching needs and materials.

4. Diagnose, guide, interpret, and evaluate growth. This is done in conjunction with the student, as service to him, not as a judgment of his worth.

5. Supply on-the-spot first aid when materials do not work or are unavailable.

6. Develop new materials to anticipate the problem in the furture.

7. Personally interact with individuals and small groups.

8. Group and continuously regroup small learning teams according to needs.

9. Introduce as many enrichment experiences as the creativity and resourcefulness of the teacher allow.

At Mobilization For Youth we are moving toward this type of instructional mode in our school dropout and Mobilization Reading Teacher projects. We are adapting existing materials to self-instructional exercises. One simple type of "programing" involves categorizing most of the existing basal reader workbooks. Our staff is analyzing every exercise, defining operationally what skills are taught and what skills are assumed mastered by the pupil before he attacks the exercise. The next step is to restructure these exercises so they require a minimum of teacher direction and a maximum of self-directed learning.

We are moving toward a skills-station approach to self-directed learning. In this approach, specific reading operations are taught at specific stations. Our problem is gathering self-instructional materials for each station. We are attacking this problem on three levels. First, we are gathering as many self-instructional programs or exercises as we can find on the market. We have found very little in reading on the primer level. Second, we are adapting existing materials by such simple techniques as providing answers with exercises. This allows the student to receive immediate feedback. Third, we are developing new programed materials to teach reading skills. In addition to the auditory

discrimination of the sounds in words program described earlier, we are working on an aural-oral-visual-writing technique to teach reading with a variation of the Bell & Howell Language Master and the Scott, Foresman Rolling Reader.

The task we have set for ourselves is gigantic. We will not finish our job during Mobilization For Youth's tenure. But we will have started toward our goal of an individualized, programed, self-instructional learning center in every classroom.

It is our belief, elaborated elsewhere in an analysis of the learning principles and psychosocial implications of programed instruction in reading, that the approach described above will make a significant contribution to increasing the quantity and quality of learning in the schools. At the same time, it will contribute greatly toward offsetting the depersonalizing effects of modern technology by using sound educational methodology to teach <u>individuals</u>, not <u>groups</u>.